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I, KIM MARSHALL, MANAGER EXAMINATION SUPPORT AND SALES, hereby certify that the annexed is a true copy of the Provisional specification in connection with Application No. PP 4098 for a patent by SIGNATURE MOUTHGUARDS PTY LIMITED filed on 11 June 1998

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KIM MARSHALL
MANAGER EXAMINATION SUPPORT AND SALES

S & F Ref: 413177

ORIGINAL

AUSTRALIA

Patents Act 1990

PROVISIONAL SPECIFICATION FOR THE INVENTION ENTITLED:

A Mouthguard

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Inventor(s) Name(s): Peter Burns

This invention is best described in the following statement:

A Mouthguard

Technical Field

The present invention relates to mouthguards and more particularly, but exclusively, to mouthguards used by sports participants.

Background of the Invention

Mouthguards have consisted of a number of types, including those constructed of thermoplastics material, which are heated (typically in hot water) and then applied to the user's mouth so that the mouthguard is moulded to fit the user's teeth and jaw. A more expensive type of mouthguard is that provided generally by dentists. The "custom fitted" dentist provided mouthguards are manufactured from an impression taken of the user's teeth and jaw. Plastics material is then formed in a mould generated from the impression. More recently, laminated pressure mouthguards have been made available.

The above discussed types of mouthguards fall short of providing the desired level of protection for the user.

Object of the Invention

It is the object of the present invention to overcome or substantially ameliorate the above disadvantage.

Summary of the Invention

There is disclosed herein a mouthguard of generally "C-shaped" configuration so as to provide a front portion and two arms diverting rearwardly from the front portion, the mouthguard being of a "U-shaped" transverse cross-section so as to provide an inner and an outer flange joined by a base.

The mouthguard described herein has a first inventive feature which includes the base having a lower surface providing a lower occusual table which is generally perpendicular to the inner flange.

A second inventive feature described herein includes the base having an upper occusual table which is inclined to the inner flange by an angle between 100 and 120 degrees.

A third inventive feature described herein includes a thickened portion of said outer flange being provided at said front part.

A forth inventive feature described herein includes the base having a lower surface provided with a shield adjacent the outer flange extending substantially along each arm.

A fifth inventive feature described herein includes said base having an upper surface, with the forward portion thereof being raised relative to arm portions thereof.

Brief Description of the Drawings

A preferred form of the present invention will now be described by way of example with reference to the accompanying drawings wherein:

Fig. 1 is a schematic front elevation of a mouthguard to generally enclose the upper teeth of a wearer;

Fig. 2 is a schematic rear elevation of the mouthguard of Fig. 1;

Fig. 3 is a schematic part sectioned side elevation of the mouthguard of Fig. 1;

Fig. 4 is a schematic top plan view of the mouthguard of Fig. 1;

Fig. 5 is a schematic side elevation of the mouthguard of Fig. 1;

Fig. 6 is a schematic bottom plan view of the mouthguard of Fig. 1;

Fig. 7 is a schematic top perspective view of the mouthguard of Fig. 1; and

Fig. 8 is a schematic rear perspective view of the mouthguard of Fig. 1.

Detailed Description of the Preferred Embodiment

In the accompanying drawings, there is schematically depicted a mouthguard 10. The mouthguard 10 is of a "C-shaped" configuration so as to provide a front portion 11 from which there rearwardly diverges a pair of arms 12. The mouthguard 10 in transverse cross-section is of a "U-shaped" configuration so as to provide a inner flange 13 joined to an outer flange 14 by means of a base 15.

The upper edge of the flange 14 is provided with raised portions 16 and 17 arranged generally symmetrically relative to a plane passing through the line 3-3 of Fig. 4. In that regard it should be appreciated that the side elevation illustrated in Fig. 3 is the mouthguard sectioned along the line 3-3 of Fig. 4.

The base 15 of the mouthguard 10 includes upper surfaces 18 extending along each arm 12, with each surface 18 providing an occusual table. The surfaces 18 are inclined to the internal surface 19 of the internal flange 13 by an angle between 100 and 120 degrees, preferably 110 degrees.

The base 15 is also provided with a pair of lower surfaces 20, each surface 20 extending along an arm 12, with each surface 20 providing a lower occusual table. The surfaces 20 are inclined to the external surface 21 of the outer flange 14 by approximately 90 degrees.

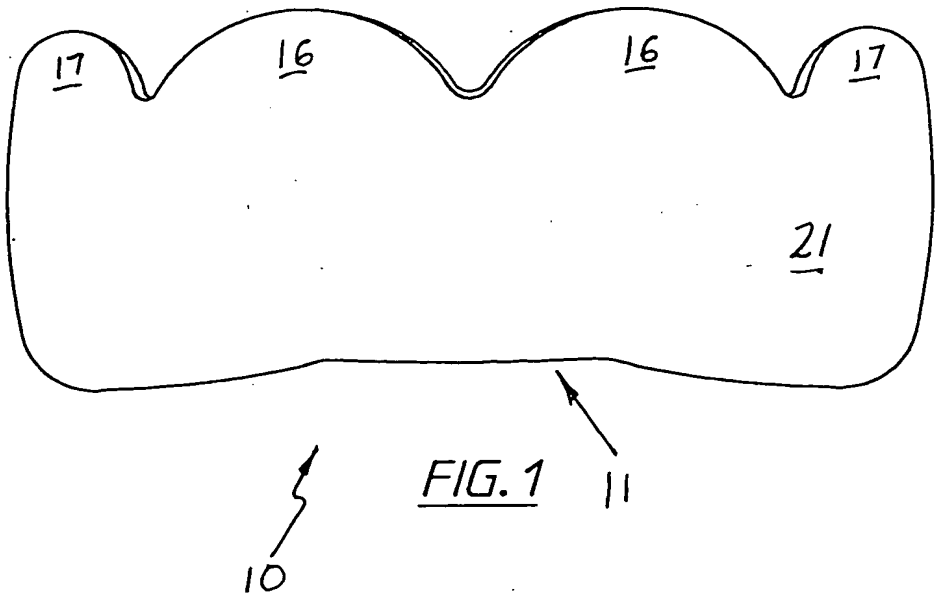
Each arm 12 is also provided with a ridge 22 which acts as a shield.

The forward portion 11 is thickened so as to provide a labial shield 23 formed on the internal surface 24 of the outer flange 14. The shield 23 extends to the trough 25 located in the forward portion 11 between the flanges 13 and 14. The forward portion 11 is also provided with a raised or thickened incisal portion 26.

Preferably, the forward portion 11 is also provided with a front shield 28 in the form of a ridge.

The mouthguard 10 is formed of thermoplastics material which when heated to approximately 40 degrees or above becomes plastically mouldable if bitten. To provide for the flow of plastics material when being formed, each of the arms 12 is provided with a trough 27 into which the plastics material can flow.

Dated 11 June, 1998
Signature Mouthguards Pty Limited
Patent Attorneys for the Applicant/Nominated Person
SPRUSON & FERGUSON


17
16
16
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21
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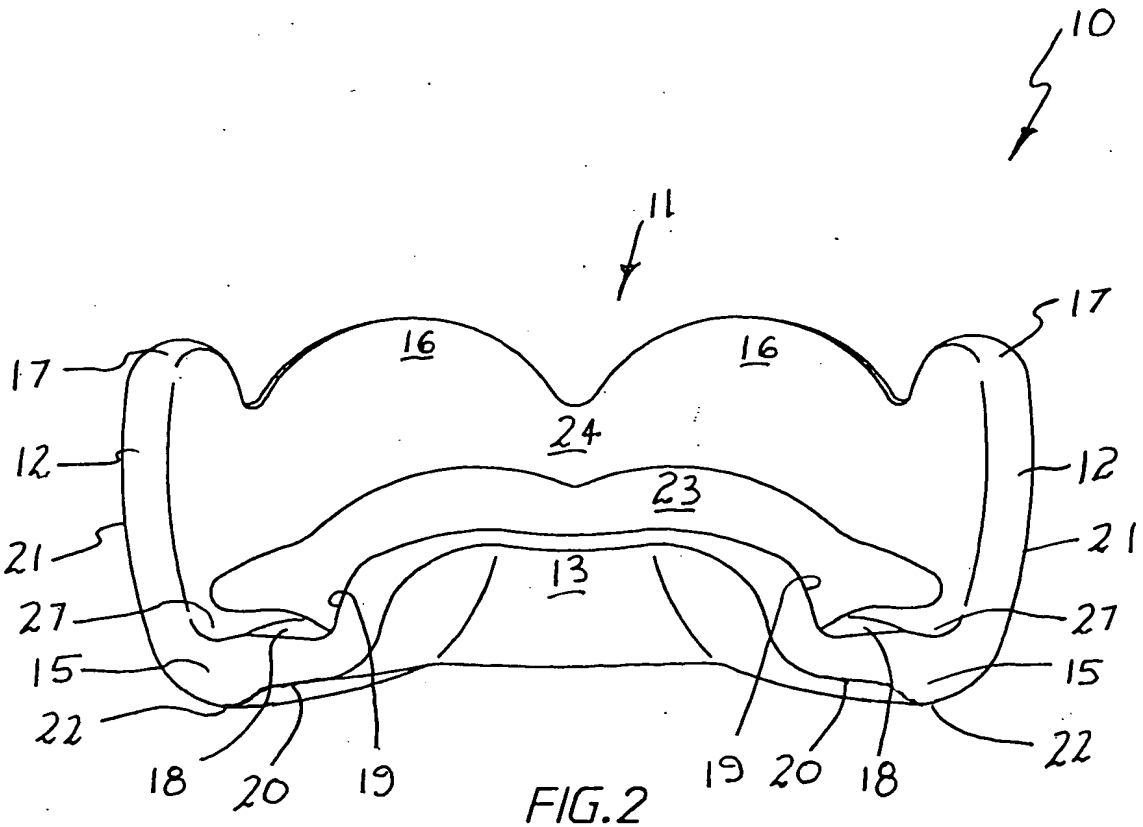
11

FIG. 1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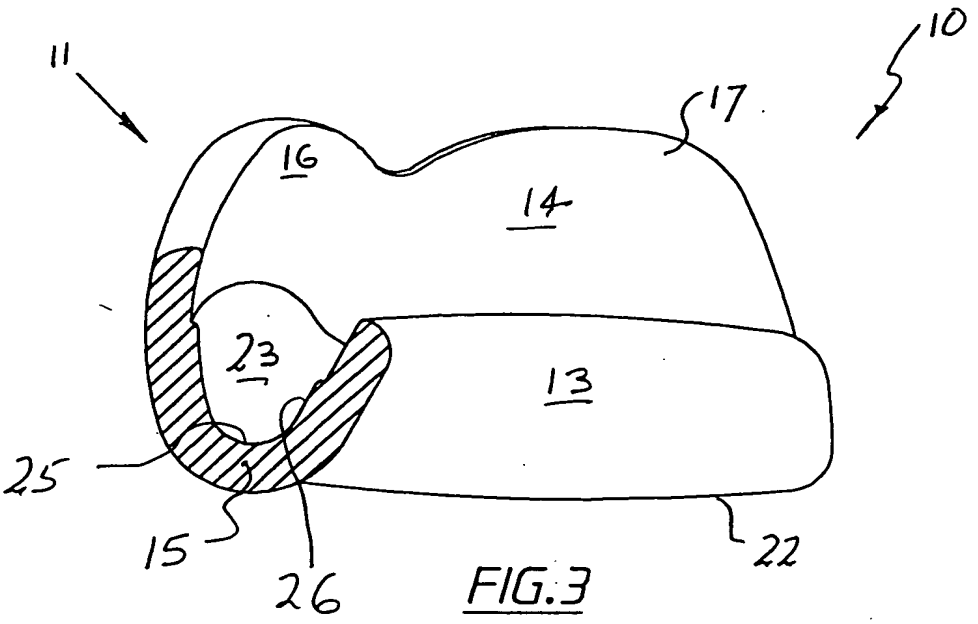
20
18

FIG. 2


11
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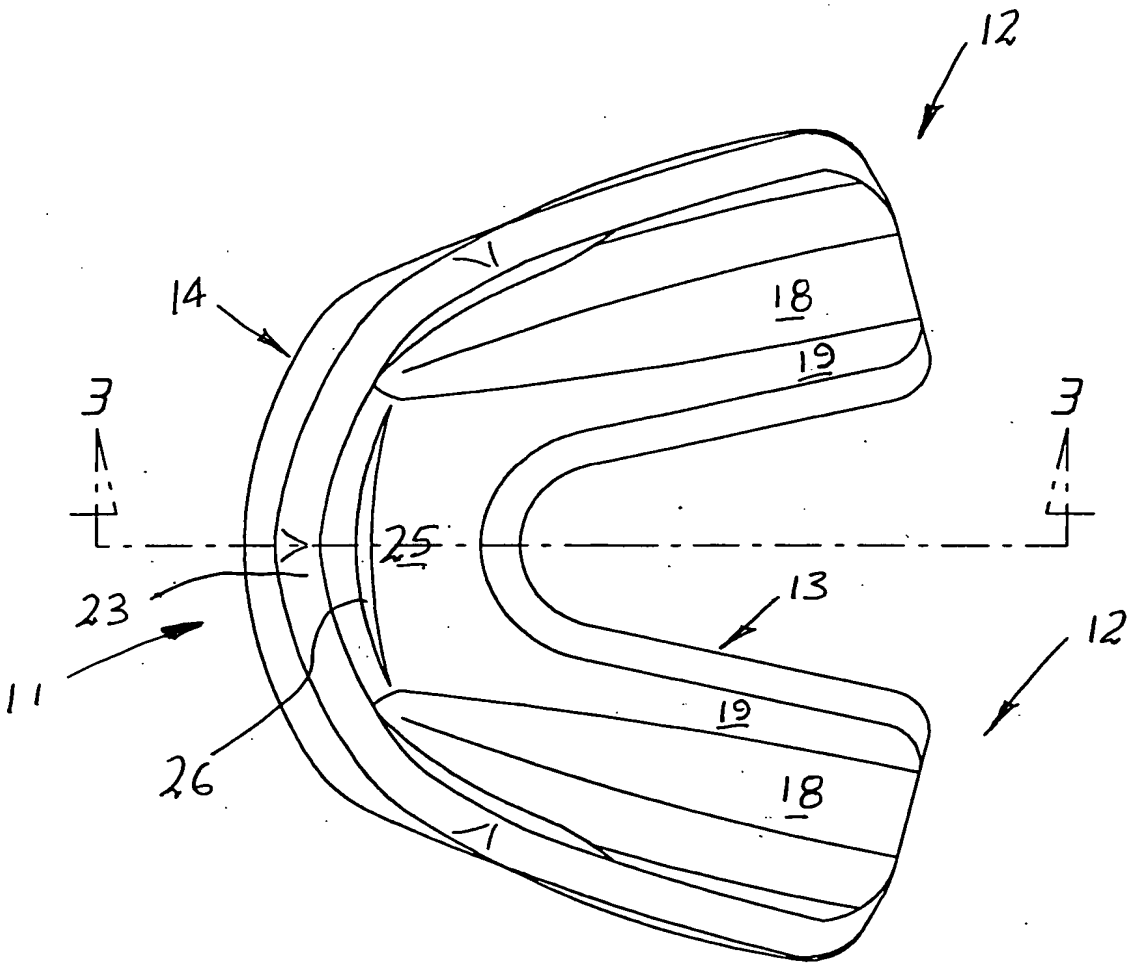
17
16
14
23
13
25
15
26
22

FIG.3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14
18
19
3
3
25
23
13
11
12
19
26
18
1
1

FIG.4

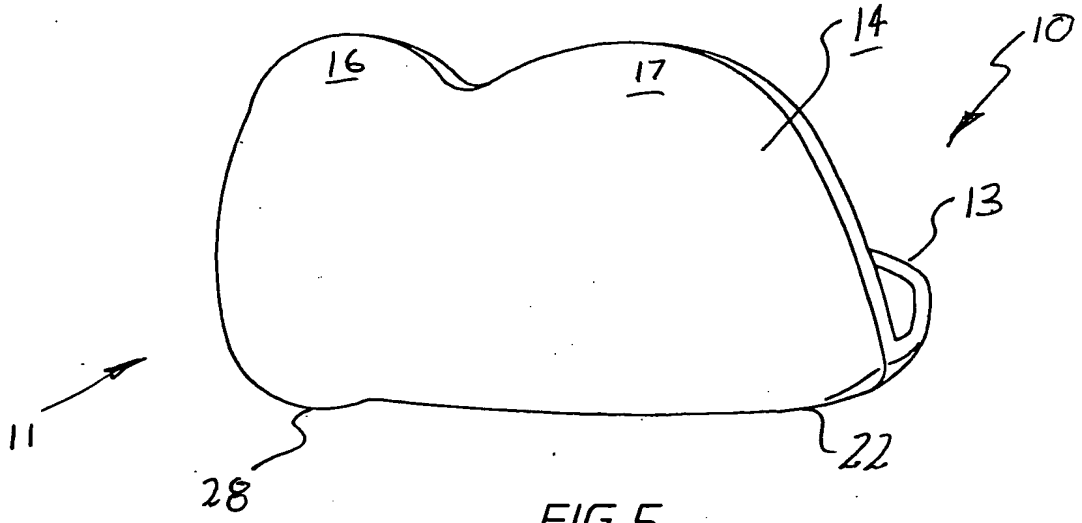

FIG.5

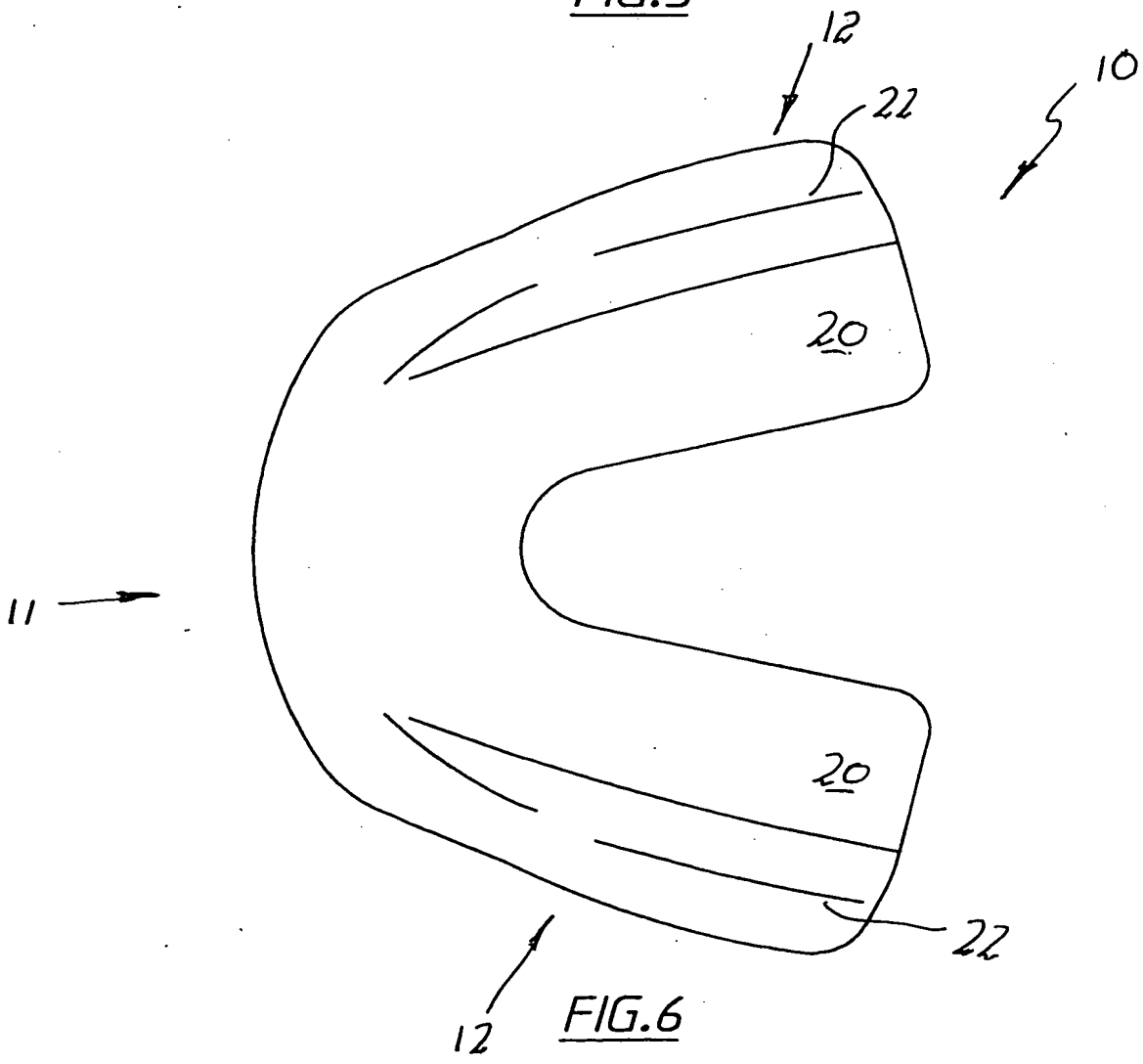

FIG.6

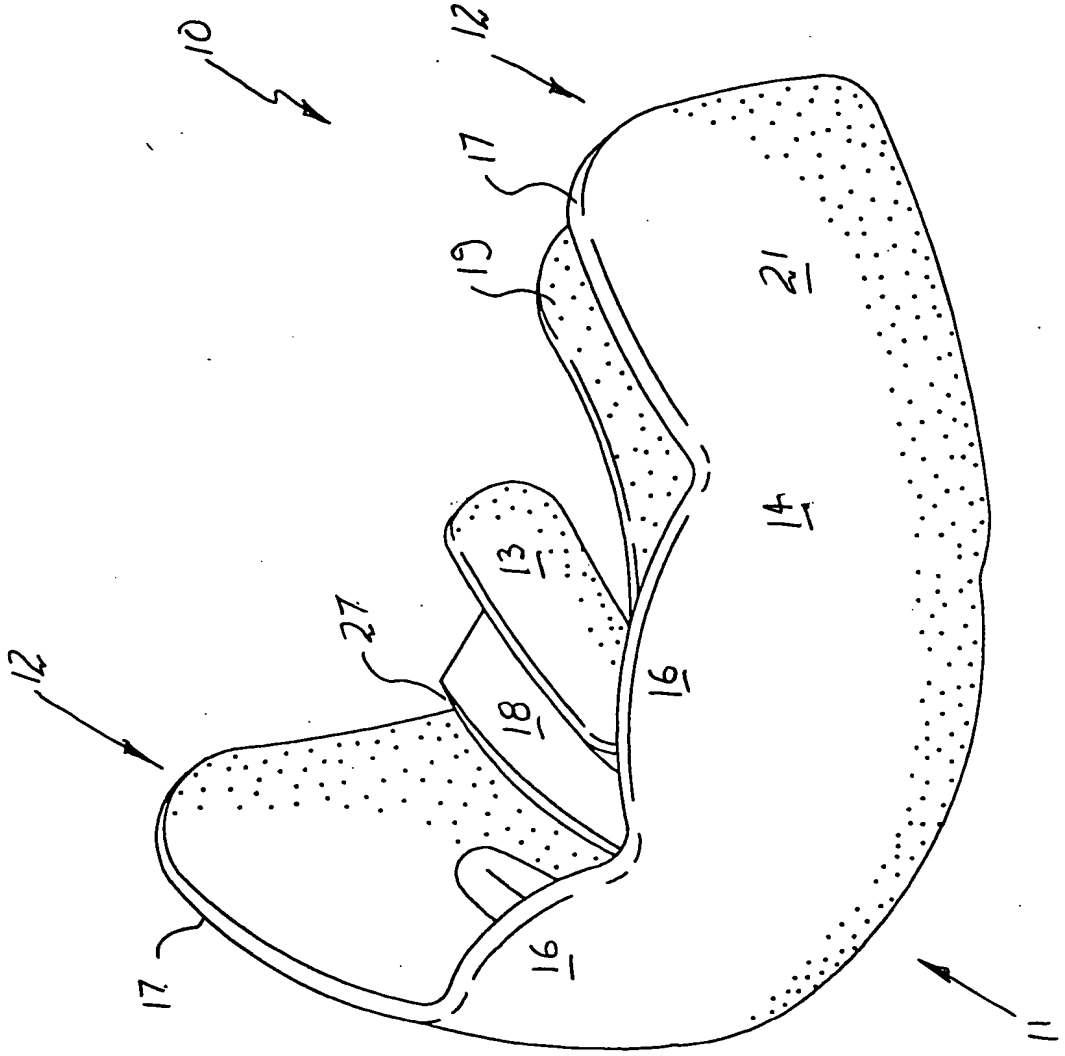

FIG.7

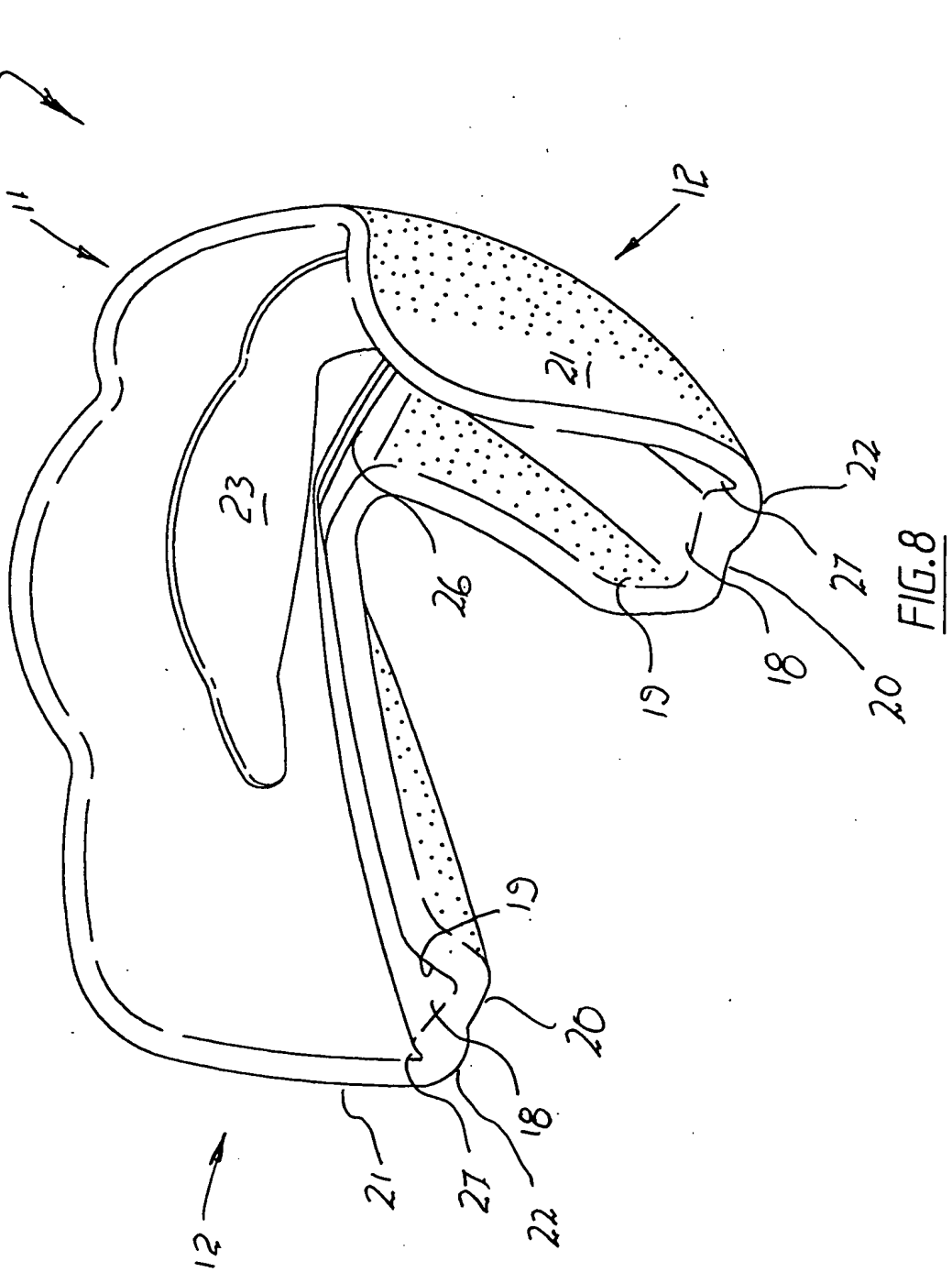

FIG.8